What Is Claimed:

1. A satellite system comprising:

a first backbone satellite orbiting in a first orbit; and

a host satellite orbiting in the first orbit and configured to be physically near the first backbone satellite, the host satellite transmitting information directly to the first backbone satellite via an omni-directional communication scheme and receiving information from the first backbone satellite via a proxy satellite through which the information is relayed.

2. The satellite system of claim 1, wherein the proxy satellite is a second backbone satellite orbiting in an orbit different than the first orbit.

3. The satellite system of claim 2, wherein the first backbone satellite includes:

inter-satellite input/output devices configured to form directional links between the first backbone satellite and the second backbone satellite.

4. The satellite system of claim 3, wherein the host satellite includes:

access input/output devices configured to form omni-directional links between the host satellite and the first backbone satellite.

5. The satellite system of claim 1, wherein the proxy satellite receives the information from the first backbone satellite over a directional communication link.

6. The satellite system of claim 5, wherein the proxy satellite forwards the information from the first backbone satellite to the host satellite.

7. The satellite system of claim 6, wherein, when forwarding the information from the first backbone satellite, the proxy satellite:

determines a power requirement for forwarding the information to the host satellite, and

transmits the information to the host satellite based on the determined power requirement.

8. A first backbone satellite comprising:

a first input/output device configured to receive communications from a host satellite using omni-directional radio frequency links; and

a second input/output device configured to transmit communications ultimately destined for the host satellite using directional communication links aimed at a second backbone satellite, the second backbone satellite configured to relay the communications ultimately destined for the host satellite to the host satellite.

9. The satellite of claim 8, wherein the first backbone satellite orbits in a same orbit as an orbit of the host satellite.

10. The satellite of claim 8, wherein the second backbone satellite orbits in an orbit different than an orbit of the host satellite.

11. The satellite of claim 8, wherein the first backbone satellite designates the second backbone satellite as a proxy.

12. A host satellite in a satellite network, the host satellite comprising:

means for transmitting information to a destination in the satellite network by broadcasting the information to a first backbone satellite located proximate to the host satellite and traveling in a same orbit as the host satellite; and

means for receiving information from a second backbone satellite that is traveling in a different orbit than the orbit of the host satellite.

13. The satellite of claim 12, wherein the means for transmitting includes an omni-directional antenna.

14. The host satellite of claim 12, wherein the host satellite transmits the information at a power level that is low enough such that there is a low probability of detection of the host satellite.

15. A method of communicating with a low probability of detection in a satellite system, the method comprising:

receiving information, intended for a host satellite, at a first backbone satellite that is located proximate to and in a same orbit as the host satellite;

forwarding the information to the host via a second backbone satellite that is in an orbit different from the orbit of the first backbone satellite and the host satellite; and

directly receiving information transmitted from the host satellite at the first backbone satellite.

16. The method of claim 15, wherein directly receiving the information at the first backbone satellite includes receiving the information transmitted from an omni-directional antenna of the host satellite.

17. The method of claim 16, wherein the information transmitted from the omni-directional antenna is transmitted at a signal power low enough such that there is a low probability of detection of the transmitted information by devices not located proximate to the host satellite.

18. The method of claim 15, wherein forwarding the information further includes:

forwarding the information to the second backbone satellite over a directional communication link.

19. The method of claim 15, wherein forwarding the information further includes:

designating the second backbone satellite as a proxy for the first backbone satellite.

20. The method of claim 19, wherein, when the second backbone satellite is designated as the proxy, the second backbone satellite routes information that is indicated as being destined to the host satellite via the first backbone satellite directly to the host satellite.

21. A method, implemented in a backbone satellite, comprising:

determining a current satellite to use as a proxy for transmitting information to a host satellite;

informing a previous satellite that was being used as the proxy that the previous satellite is no longer the proxy; and

informing the current satellite that the current satellite is to act as the proxy for the backbone satellite to forward information ultimately intended for the host satellite directly to the host satellite.

22. The method of claim 21, further comprising:

forming a communication link between the backbone satellite and the host satellite through which the host satellite transmits information.

23. The method of claim 21, wherein the communication link between the backbone satellite and the host satellite is an omni-directional communication link.

24. The method of claim 21, wherein the backbone satellite is in a same orbit as the host satellite.